cially about Hood Bay, where the names Bulaʻa and Hula are suggestive of Ulawa, and of Pululaha on the coast of Malaita. The New Guinea *ama*, father, *ma*, eye, *vio*, hungry, *mauu*, sleep, appear in Saʻa as *ama, maa, hiʻolo,* and *maʻuru,* and there are agreements in grammar as well as in vocabulary.

These are but two of the points which may be raised by the purely linguistic portion of Dr. Ivens's book. The other appendices deal in a general way with Melanesian customs and with the romantic history of the Melanesian mission and the "yacht" cruises of its apostles Selwyn and Patteson. There is a chapter on the "blackbirds" of the labour traffic, and also an account of the Santa Cruz Islands, so tragic in geographical and missionary history.

Dr. Ivens's book will be exceedingly useful to students of Melanesian history and languages, whilst the general reader will find in his supplements a great deal of most interesting information about a region which, although so close to the great southern commonwealth, is singularly little known. Sidney H. Ray.

OUR BOOKSHELF.

Evolution and the Doctrine of the Trinity. By the Rev. S. A. McDowall. Pp. xxvi + 258. (Cambridge: At the University Press, 1918.) Price 9*s.* net.

In a previous volume, "Evolution and the Need of Atonement," Mr. Stewart McDowall sought to show the necessity for a teleological interpretation of the evolution-process. He continues his adventurous thinking, which is always welcome, and his aim is to restate the doctrine of the Trinity in terms that are consonant with modern thought, or with certain lines of modern thought. The truth of a doctrine does not stand or fall, he says, with the terminology in which it is expressed, and he considers the doctrine of the Trinity *sub specie evolutionis*, so to speak.

Starting from a theistic position, recognising the Being of God as the Ground of Reality, Mr. McDowall thinks of the material universe as the medium in which a certain definite purpose is realised—namely, the development of personality. This is a unique end which justifies the whole in a way that the Giant Reptiles, for instance, did not. According to our author, Man is in eternal life already, and his nature and experience are the same as God's, differing only in degree. The psychologist divides the mind-states into *cognition, affection,* and *conation*; the philosopher analyses human personality into three constituents: *will, intellect,* and *emotion*; the theologian conceives God as *Father, Son,* and *Spirit.* What is true of the developing personality of man must be *a fortiori* true of the developing personality of God. Hence the evolutionary re-formulation of the doctrine of the Trinity.

Such with all the injustice of condensation is the author's central thesis. To the conventional physiologist who sums up man as mechanism, it will doubtless appear highly metaphorical, but he might be none the worse for carefully studying, for instance, Mr. McDowall's very competent discussion of Freudian psychology. We have much doubt, however, whether the author really answers his own question in regard to the whole evolution-process: "Could the stages, even the human stage, be passing time-phases in the development of something far greater than we can even begin to understand?"

A Manual of Geometrical Crystallography. Treating solely of those Portions of the Subject useful in the Identification of Minerals. By Prof. G. Montague Butler. Pp. viii + 155. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1918.) Price 7*s.* net.

In this elementary text-book the information is given mainly in the form of a series of definitions, and is not easy to follow, even with some previous knowledge of the subject. A beginner, especially one attempting to work alone, would very likely soon become hopelessly confused. The book is, however, no doubt intended for the author's own students in the University of Arizona. The various hemihedral and tetartohedral "divisions" of each system are developed by the older method of suppression of certain faces or groups of faces of the holohedral form, and little use is made of the more important ideas of symmetry. The number of the planes of symmetry appertaining to each division is, however, clearly stated; but reference to axes of symmetry is omitted, except in the incorrect definition: "A symmetry axis is a line or direction perpendicular to a symmetry plane and passing through the centre of the object." Another definition runs: "A hemimorphic crystal is one in which the law of axes is violated"; and such crystals are disposed of in some other division. Including hemimorphic crystals, twenty-two of the thirty-two possible crystal-classes are dealt with, but, since for some of them there are no examples amongst minerals, the statement on the title-page is rather beside the point. Precise instructions for "orienting crystals" are repeated under each crystal-class, but, strange to say, few of the text-figures are set quite straight on the page. By an unfortunate error the title of the book appears on the cover as "Geometrical Chrystallography."

Highways and Byways in Northamptonshire and Rutland. By Herbert A. Evans. With illustrations by Frederick L. Griggs. Pp. xvi + 367 + map. (London: Macmillan and Co., Ltd., 1918.) Price 6*s.* net.

Perhaps no two counties in England have preserved their old-world charm so well as Northamptonshire and Rutland. A great deal of the daily traffic between London and the industrial North and between London and Scotland passes through them without leaving any impress upon their placid existence. Industry has not supplanted agriculture in these two counties; they still retain the characteristics of England of a century or two ago. Mr. Evans has not aimed at writing a guide-

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book or a complete account of the geography and history of Northamptonshire and Rutland. He leads his readers in rambles through the countryside, dwelling principally in his descriptions on church architecture and historical anecdote. Modern developments find little place in the book, and the scenery and physical features are only lightly touched on. It is a book written by an archæologist for leisured readers of a like mind to whom Northampton and Rutland are native shires. Judged from that point of view, it is well written and full of interest. More than a hundred drawings by Mr. F. L. Griggs ably illustrate the volume, and there is a well-executed map.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

Marine Research at St. Andrews.

IN his letter published in NATURE of March 27 Prof. McIntosh states that, while the country is spending large sums of money on international marine investigations, the Gatty Marine Laboratory of St. Andrews is closed for lack of funds. He also points out that the Gatty Marine Laboratory and its predecessor at St. Andrews were the institutions where many marine zoologists, now occupying important positions here and in the Colonies, received their training.

In spite, however, of the manner in which the laboratory has been ignored by the Government Departments which might have been expected to give it support, it has been the centre for important marine research, the results of which must be appealed to and recognised long after much of the undigested material accumulated under more pretentious conditions has been buried under thick layers of dust on Government shelves. It is certainly a pity that in this country the three Government Departments concerned with marine investigations work independently of one another, and that each in turn is prepared to adopt a similar policy with reference to the marine laboratories.

The marine laboratories have claims which, at the present time when schemes of reconstruction are being considered, should not be forgotten—first, as useful adjuncts of the biological teaching of our universities; secondly, as centres for training those who are to take part in marine investigations; and, thirdly, as institutions where marine investigations are carried out, often to a large extent by voluntary workers.

Surely, then, before the Government enters upon schemes of investigation, whether national or international, involving the expenditure of large sums of public money, the first endeavour should be to see that those institutions which have already proved so valuable are maintained and developed to their fullest extent. A. MEEK.

Dove Marine Laboratory, Cullercoats,
Northumberland, March 31.

The Machinery of Government.

THE quotation from Carlyle with which the article on the above subject opens in NATURE of April 3 is singularly appropriate—"A man without a purpose is like a ship without a rudder"—and the comments of the writer are very useful. I add another quotation from a more obscure source: "A man of great knowledge and unweariable perseverance can really, by constantly pressing upon Ministers and Departments, do more than a tired and harassed official to shape public ends." There is a substratum of truth in this. The State Department lacks initiative. The Minister's time is taken up in assisting to run the political machine, in doing what is brought to him from his Department, and in seeing through such things as may arise in Parliament in connection with his Ministry. The Department itself is engaged in administrative work, and has little time, or perhaps little inclination, for devising reforms in the interests of the industry it represents. It may be argued by the Department that such is not the work of an administrative Department; and those relying on a Department for taking the initiative in any reform should consider whether they are entitled to do so.

No one should know better the wants of an industry than the more intelligent and far-seeing among the people who carry it on, and it is for them to see that some means is provided for direct access to the Department for suggestion and consultation. This can be done by the appointment of an advisory council as suggested in the Report of the Machinery of Government Committee. It is a matter of the highest importance to the industries of this country that when a Department is approached with this end in view it should receive the suggestion with sympathy.

The methods of appointing the members of an advisory council should be such as to secure, so far as possible, the appointment of men in whom those in the industry have confidence.

A. J. BRANDER.

Visualisation of Features.

MAY I direct the attention of readers of NATURE to a strange trick that I have found my memory to play me for many years? It occurs in the process of recollection of visual impressions ("visualisation") of faces.

Suppose, now, that I am attempting to visualise a face not seen for some time, and that I recollect the lower lip to be slightly pendulous, while the nose is large and rather prominent—well, I can visualise each separate feature correctly, but, so soon as I attempt to visualise the face *as a whole*, the features are grotesquely exaggerated, so that the lip (to take the above case) appears as a huge, pendulous, quite unnatural growth, and the nose as an equally absurd and grossly unreal structure.

My meaning may not be very clear to all, but if any other readers have had similar experiences, they will, no doubt, understand it. There is possibly some scientific explanation forthcoming; if so, I should be glad to hear of it. R. F. POWELL.

Hodgsonites, Charterhouse, Godalming,
Surrey, March 19.

The "Atom."

"TO-DAY many chemists and physicists think that the chemical atoms of the last century are no longer to be considered as indivisible. In that case the old Greek name 'atom' is no longer fitting, because it denotes indivisibility." The above sentences are quoted from the presidential address of Prof. T. W. Richards, published in NATURE of March 27.

Fifty years ago Prof. Brazier taught us, his students at Aberdeen University, very emphatically that the word "atom" must be taken in its *primary* Greek meaning of *uncut, undivided*—not as indivisible, but as what had not hitherto been divided. This was long before the discovery of radio-activity. A. A.

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